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<b>TRANSMITTAL LETTER</b> <b>(General - Patent Pending)</b>	Docket No. <b>UIC0005US.NP</b>
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In Re: Application Of: **Kumar et al.**

Application No. <b>10/567,958</b>	Filing Date <b>Not yet assigned</b>	Examiner <b>Not yet assigned</b>	Customer No. <b>26259</b>	Group Art Unit <b>1635</b>	Confirmation No. <b>2671</b>
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Title: **Silencing of TGF-Beta Receptor Type II Expression by siRNA**

COMMISSIONER FOR PATENTS:

Transmitted herewith is:

**Courtesy Copy of International Preliminary Report on Patentability**

in the above identified application.

- ☒ No additional fee is required.
- ☐ A check in the amount of \_\_\_\_\_ is attached.
- ☒ The Director is hereby authorized to charge and credit Deposit Account No. **50-1619** as described below.
- ☐ Charge the amount of \_\_\_\_\_
- ☒ Credit any overpayment.
- ☒ Charge any additional fee required.
- ☐ Payment by credit card. Form PTO-2038 is attached.

**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

*Jane Massey Licata*

Signature

Dated: **June 12, 2006**

Jane Massey Licata, Reg. No. 32,257

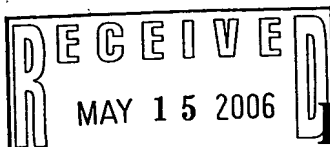
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to the "Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on

(Date)

Signature of Person Mailing Correspondence

Typed or Printed Name of Person Mailing Correspondence

CC:

**PCT**

From the INTERNATIONAL BUREAU

To:

LICATA, Jane Massey  
Licata & Tyrrell P.C.  
66 E. Main Street  
Marlton, New Jersey 08053  
ETATS-UNIS D'AMERIQUE

By                      NOTIFICATION CONCERNING  
TRANSMITTAL OF COPY OF INTERNATIONAL  
PRELIMINARY REPORT ON PATENTABILITY  
(CHAPTER I OF THE PATENT COOPERATION  
TREATY)

(PCT Rule 44bis.1(c))

Date of mailing (day/month/year)  
04 May 2006 (04.05.2006)

Applicant's or agent's file reference  
27611/39566B

0100005EP

**IMPORTANT NOTICE**

International application No.  
PCT/US2004/025984

International filing date (day/month/year)  
10 August 2004 (10.08.2004)

Priority date (day/month/year)  
13 August 2003 (13.08.2003)

Applicant

THE BOARD OF TRUSTEES OF THE UNIVERSITY OF ILLINOIS et al

The International Bureau transmits herewith a copy of the international preliminary report on patentability (Chapter I of the Patent Cooperation Treaty)

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Authorized officer

Simin Baharlou

Facsimile No.+41 22 740 14 35

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# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference 27611/39566B	<b>FOR FURTHER ACTION</b>	See item 4 below
International application No. PCT/US2004/025984	International filing date ( <i>day/month/year</i> ) 10 August 2004 (10.08.2004)	Priority date ( <i>day/month/year</i> ) 13 August 2003 (13.08.2003)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant THE BOARD OF TRUSTEES OF THE UNIVERSITY OF ILLINOIS		

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 *bis*.1(a).

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- |                                     |              |   |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the report   |
| <input type="checkbox"/>            | Box No. II   | Priority  |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input checked="" type="checkbox"/> | Box No. IV   | Lack of unity of invention  |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited   |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application  |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application   |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Date of issuance of this report 24 April 2006 (24.04.2006)
Facsimile No. +41 22 740 14 35	Authorized officer  <div style="text-align: center; font-weight: bold;">Simin Baharlou</div>
Telephone No. +41 22 338 71 30	

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

REC'D 10 APR 2006

WIPO

PCT

**PCT**

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:  
NABEELA R. MCMILLIAN  
MARSHALL, GERSTEIN & BORUN LLP  
6300 SEARS TOWER  
233 SOUTH WACKER DRIVE  
CHICAGO, IL 60606

Date of mailing  
(day/month/year) **06 APR 2006**

Applicant's or agent's file reference

**FOR FURTHER ACTION**

See paragraph 2 below

27611/39566B

International application No.

International filing date (day/month/year)

Priority date (day/month/year)

PCT/US04/25984

10 August 2004 (10.08.2004)

13 August 2003 (13.08.2003)

International Patent Classification (IPC) or both national classification and IPC

IPC(8): C07H 21/04 and US Cl.: 536/24.5

Applicant

BOARD OF TRUSTEES UNIVERSITY OF ILLINOIS

### 1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

### 3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US  
Mail Stop PCT, Attn: ISA/US  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
Facsimile No. (571) 273-3201

Date of completion of this opinion  
08 February 2006 (08.02.2006)

Authorized officer

Louis V. Wollenberger

Telephone No. 571-272-1600

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US04/25984

**Box No. I Basis of this opinion**

1. With regard to the language, this opinion has been established on the basis of:

- ☒ the international application in the language in which it was filed  
☐ a translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☒ a sequence listing  
☐ table(s) related to the sequence listing

b. format of material

- ☒ on paper  
☒ in electronic form

c. time of filing/furnishing

- ☒ contained in the international application as filed.  
☒ filed together with the international application in electronic form.  
☐ furnished subsequently to this Authority for the purposes of search.

3. ☒ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US04/25984

Box No. IV Lack of unity of invention

1. ☒ In response to the invitation (Form PCT/ISA/206) to pay additional fees the applicant has, within the applicable time limit:
- ☐ paid additional fees
  - ☐ paid additional fees under protest and, where applicable, the protest fee
  - ☐ paid additional fees under protest but the applicable protest fee was not paid
  - ☒ not paid additional fees
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is
- ☐ complied with
  - ☒ not complied with for the following reasons:  
See the lack of unity section of the International Search Report (Form PCT/ISA/210)

4. Consequently, this opinion has been established in respect of the following parts of the international application:

- ☐ all parts.
- ☒ the parts relating to claims Nos. 1-5 and SEQ ID NO:5

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.  
PCT/US04/25984

**Box No. V Reasoned statement under Rule 43 bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims <u>2, 3, 5</u>	YES
	Claims <u>1 and 4</u>	NO
Inventive step (IS)	Claims <u>3 and 5</u>	YES
	Claims <u>2</u>	NO
Industrial applicability (IA)	Claims <u>1-5</u>	YES
	Claims <u>NONE</u>	NO

**2. Citations and explanations:**

Claims 1 and 4 lack novelty under PCT Article 33(2) as being anticipated by McSwiggen et al., who teach siRNAs targeting transforming growth factor beta receptor II (TGF $\beta$  receptor II) and pharmaceutical compositions thereof.

Claims 1 and 2 lack an inventive step under PCT Article 33(3) as being obvious over Murray et al. in view of Elbashir et al. and Tuschl et al. Murray et al. teach antisense oligonucleotides targeting transforming growth factor beta receptor II (TGF $\beta$  receptor II). Elbashir et al. teach that siRNAs are potent mediators of gene silencing and effective at concentrations that are several orders of magnitude below the concentrations applied in conventional antisense or ribozyme gene targeting experiments (page 496). Tuschl et al. teach that siRNAs should have a G/C content of between 30 and 70%, and it has also been suggested that runs of 3 or more Gs or Cs should be avoided. Taken together, the references render Claims 1 and 2 obvious.

SEQ ID NO:5 in Claim 3 meets the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest an siRNA molecule comprising SEQ ID NO:5. However, Murray et al. suggest an antisense molecule that is 90.5% identical to SEQ ID NO:5 (See Sequence 21).

Claim 5 meets the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest a composition comprising an siRNA molecule comprising SEQ ID NO:5 and a wound healing agent.

Claims 1-5 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.